

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

November 17th, 1909.—Prof. W. J. Sollas, LL.D., Sc.D., F.R.S.,
President, in the Chair.

The following communication was read :—

‘The Faunal Succession of the Upper Bernician.’

By Stanley Smith, M.Sc., F.G.S.

The Bernician Series forms the upper and by far the larger division of the Lower Carboniferous sequence of Northumberland, and covers the greater part of the county. Below the Bernician lie the Tuedian beds. The Northumberland succession, together with the Lower Carboniferous rocks north of the Tweed, occupies the northern extremity of the Pennine Province of the Carboniferous Limestone Series, which stretches from Staffordshire into Scotland. The Carboniferous strata in Northumberland encircle the Cheviots on the south, east, and north, and dip from the volcanic inlier, so that the general strike forms a rough semicircle round the igneous massif, nearest to which consequently lie the lowest beds.

The Bernician is mainly built up of sandstones and shales, but intercalated among the arenaceous and argillaceous deposits are the various beds of limestone and numerous seams of coal.

In the Upper Bernician, the limestones are fairly thick, are constant, and are truly marine. The calcareous beds of Lower Bernician age are thin and impure, and frequently contain *Stigmaria* and other plant-remains. There are a few good marine limestones, but these are of local occurrence.

The Upper Bernician, taking the Redesdale Ironstone Shale as the base, answers to Tate's Calcareous Group; while the Lower Bernician is equivalent to Tate's Carbonaceous Group.

It is with the Upper Bernician only that the present paper is concerned.

The whole of the Upper Bernician Limestones belong to the *Dibunophyllum*-Zone, but they are capable of the following palæontological subdivision :—

a = Redesdale Ironstone Shale.

Shallow-water fauna, mainly lamellibranchs; corals rare.
Dibunophyllum near θ has been found.

I = Redesdale Limestone.

D 1 fauna.

Dibunophyllum θ .

Carcinophyllum θ especially characteristic.

- II = Fourlaws and Oxford Limestones.
D 2.
Lonsdalia floriformis enters.
- III = Eelwell, Acre, and Four Fathom Limestones.
D 2—3 presents in its main character a Zaphrentid phase.
- IV a = Great and Little Limestones.
D 3.
Dibunophyllum muirheadi.
Koninkophyllum magnificum.
Diphyphyllum dianthoides.
- IV b = Corbridge, Thornbrough and Robsheugh Limestones.
The tendency in the Dibunophyllids towards Aspidophylloidal structure reaches its highest development.
- IV c = Fell Top Limestone.
Characterized by the presence of *Dibunophyllum muirheadi* mut., cf. *Dibunophyllum* ψ , and *Phillipsastræa radiata*.

MISCELLANEOUS.

RICHARD B. SHARPE, LL.D.

THE obituary notice of the late Dr. Sharpe which appeared in the last number of the 'Annals' does no more than justice to his devotion and energy in the cause of ornithological science—qualities the value of which to the British Museum no one could better appreciate than myself, who for more than twenty years was in daily personal contact with him and his work. I, besides, had occasion of admiring the courage which sustained him under difficulties that would have damped the enthusiasm and activity of most men. His merits are sufficiently great not to require enhancement beyond those due to him, and it will not be considered a detraction from them when, in the interest of the history of the Zoological Department, I supplement some remarks on two points referred to in the Notice.

When Dr. Sharpe entered the service of the Trustees he possessed a miscellaneous series of British and European birds, which he presented to the Museum, and a large and valuable collection of African birds; this latter was purchased of him for the departmental collection.

The formation of a series of nature-groups illustrating the nidification of British birds was, like the preparation of a descriptive general Catalogue of Birds, decided upon before Dr. Sharpe's appointment, and even the lines on which these two undertakings were to be executed had been distinctly planned. To the former Dr. Sharpe